



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/507,520	04/06/2005	Hitoshi Onizawa	056205.55398US	1159

7590 11/13/2007
Crowell & Moring
Intellectual Property Group
1001 Pennsylvania Avenue NW
Washington, DC 20004-2595

EXAMINER

SHECHTMAN, SEAN P

ART UNIT	PAPER NUMBER
----------	--------------

2125

MAIL DATE	DELIVERY MODE
-----------	---------------

11/13/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/507,520

Applicant(s)

ONIZAWA ET AL.

Examiner

Sean P. Shechtman

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4,5,10 and 12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10 and 12 is/are allowed.
- 6) ☒ Claim(s) 1,4 and 5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1, 4, 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites the limitation "A building sequence planning system...according to claim 3" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim since claim 3 has been cancelled. For purposes of examination, it will be assumed that claim 5 depends on claim 4.

Referring to claim 1, lines 12-15, it is not clear what corresponds to an assembly completion process. For purposes of examination, it will be assumed that an offline point corresponds to an assembly completion process. Claims 4-5 depend from claim 1 and therefore inherit the same deficiencies.

Referring to claim 1, lines 12-18 are unclear, for example, it is unclear what is "to shifting by employing the number of vehicles residing or accumulated between two processes, thereby deciding the building sequence for each of the preceding and succeeding processes". Claims 4-5 depend from claim 1 and therefore inherit the same deficiencies. For purposes of examination, it will be assumed that claim 1, is as follows:

"1. A building sequence planning system for an automobile production line, said system comprising:

Art Unit: 2125

an input unit for inputting vehicle information of vehicles to be manufactured,
a processing unit for deciding an optimum building sequence based on the vehicle
information inputted through said input unit, and

an output unit for externally outputting a building sequence schedule decided by said
processing unit, wherein said processing unit includes

an initial offline sequence preparing unit for preparing an initial vehicle building
sequence of the automobile based on the vehicle information inputting said input unit,

an initial lead-time developing unit for developing the building sequence in an
offline point for the building sequence of the automobile based on the vehicle
information prepared by said initial offline sequence preparing unit, wherein said offline
point corresponds to an assembly completion process,

a sequence evaluating unit for evaluating the building sequence developed by
determining a degree of dissatisfaction of the prepared building sequence, as a penalty
value, in accordance with restriction conditions,

an offline sequence preparing unit for preparing another pattern of the successive
building sequence in an offline process,

a lead-time developing unit for preparing the successive building sequence for the
entire process for another pattern of the successive building sequence prepared by said
offline sequence preparing unit by using a lead-time shifting by employing the number of
vehicles residing or accumulated between two processes, and

an evaluation determining and storing unit for deciding a building sequence with a
minimum penalty based on the penalty value evaluated by said sequence evaluation unit,

Art Unit: 2125

wherein said processing unit propagates the building sequence in an offline point, which corresponds to an assembly completion point, to preceding and succeeding processes with lead-time shifting by employing the number of vehicles residing or accumulated between two processes, thereby deciding the building sequence for each of the preceding and succeeding processes.”

Claim Rejections - 35 USC § 102

2. Rejections withdrawn in light of the amendment.

Claim Rejections - 35 USC § 103

3. Rejections withdrawn in light of the amendment.

Allowable Subject Matter

4. Claims 10, 12 are allowed. The following is a statement of reasons for the indication of allowable subject matter:

None of DAFERNER, Matsuda, Cherneff, Bergeon, or Rentschler, taken either alone or in obvious combination disclose a building sequence planning system and method for an automobile production line for deciding an optimum building sequence based on the inputted vehicle information, having all the claimed features of applicant’s instant invention, specifically including:

“wherein said processing unit prepares a vehicle building sequence, determines a degree of dissatisfaction of the prepared building sequence, as a penalty value, in accordance with restriction conditions which are inputted through said input unit and are imposed when building the vehicles into work, the restriction conditions including leveling in distribution of Vehicles having the same specifications, a minimum building interval of vehicles having particular

Art Unit: 2125

specifications, and a maximum succeeding vehicle number and a minimum succeeding vehicle number in successive building of the vehicles when the number of vehicles successively loaded is taken into consideration, and decides a building sequence with a minimum penalty by preparing a plurality of building sequences and determining the penalty value for each building sequence with respect to the restriction conditions, and

wherein said processing unit propagates the building sequence in an offline process or point, which corresponds to an assembly completion process or point, to preceding and succeeding processes with lead-time shifting by employing the number of vehicles residing or accumulated between two processes, thereby deciding the building sequence for each of the preceding and succeeding processes.”

Also, there is no motivation to combine DAFERNER, Matsuda, Cherneff, Bergeon, or Rentschler to meet these limitations. It is for these reasons that applicant’s invention defines over the prior art of record.

5. Claim 1 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action. The following is a statement of reasons for the indication of allowable subject matter:

None of DAFERNER, Matsuda, Cherneff, Bergeon, or Rentschler, taken either alone or in obvious combination disclose a building sequence planning system for an automobile production line, having all the claimed features of applicant’s instant invention, specifically including:

Art Unit: 2125

“a sequence evaluating unit for evaluating the building sequence developed by determining a degree of dissatisfaction of the prepared building sequence, as a penalty value, in accordance with restriction conditions,

an offline sequence preparing unit for preparing another pattern of the successive building sequence in an offline process,

a lead-time developing unit for preparing the successive building sequence for the entire process for another pattern of the successive building sequence prepared by the offline sequence preparing unit by using a lead-time shifting by employing the number of vehicles residing or accumulated between two processes, and

an evaluation determining and storing unit for deciding a building sequence with a minimum penalty based on the penalty value evaluated by said sequence evaluation unit,

wherein the processing unit propagates the building sequence in an offline point, which corresponds to an assembly completion point, to preceding and succeeding processes with lead-time shifting by employing the number of vehicles residing or accumulated between two processes, thereby deciding the building sequence for each of the preceding and succeeding processes.”

Also, there is no motivation to combine DAFERNER, Matsuda, Cherneff, Bergeon, or Rentschler to meet these limitations. It is for these reasons that applicant's invention defines over the prior art of record.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean P. Shechtman whose telephone number is (571) 272-3754. The examiner can normally be reached on 9:30am-6:00pm, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo P. Picard can be reached on (571) 272-3749. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

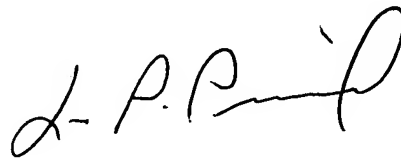
Art Unit: 2125

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SPS

Sean P. Shechtman

October 31, 2007



LEO PICARD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100